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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/702,724	11/01/2000	Mario Sandor	198956US0	1228

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EXAMINER	
YEH, JAMES T	
ART UNIT	PAPER NUMBER
1714	6

DATE MAILED: 05/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/702,724

Applicant(s)

SANDOR ET AL. N

Examiner

James T Yeh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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1. The amendment of this application received on 2/25/02 has been made of record. Claims 1-18 are now pending.

2. All outstanding rejections except for those described below are overcome by the applicants' amendment filed on 2/25/02.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-2, 4-7, and 11-12 are provisionally rejected under judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3 and 9 of copending Application No. 09/743,219. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the explanation given in paragraph 2 of the Office Action mailed on 11/30/01, Paper No. 4, which is incorporated here by reference. Applicants'

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arguments have been considered but they are not persuasive. The rejection is adequately set forth in the first Office Action.

Commonly assigned copending application 09/743,219, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee is required under 37 CFR 1.78(c) and 35 U.S.C. 132 to either show that the conflicting inventions were commonly owned at the time the invention in this application was made or to name the prior inventor of the conflicting subject matter. Failure to comply with this requirement will result in a holding of abandonment of the application.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g).

Response to Arguments regarding Nonstatutory Obvious-type Double

Patenting rejection

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4. With respect to the double patenting rejection, applicants argue that the copending application 09/743,219 discloses and suggests nothing with regard to the use of at least one chain transfer reagent in the polymerization of only one of the monomer charges.

While the copending application uses the same monomers system with two polymers in the same Tg differences ($<10K$), in Claim 1 (last paragraph) of the copending application it clearly states "the polymerization conversion U^i of the monomers M_i to be polymerized in the respective polymerization stage at no point exceeds 50 mol%." It is commonly known to one skilled in the art that monomers do not stop polymerization process until chain transfer reagent is added. In the meantime, the copending application uses an open language "comprising" in the independent Claim 1 which is open to additional ingredients such as a chain transfer reagent.

Claim Rejections - 35 USC § 112, Second Paragraph

The text of those sections of Title 35, U.S.C. Code not included in this action can be found in a prior Office Action.

5. Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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The discussion with regard to Fox equation in paragraph 3 of the first Office Action mailed on 11/30/01 is incorporated here by reference.

Response to Arguments regarding 35 USC 112, 2nd Paragraph

6. With respect to the 35 U.S.C. 112 second paragraph rejection, applicants argue that Fox equation calculates the Tg of homopolymers made from the respective monomers of a single polymer. Applicants' arguments have been considered but they are not persuasive. The rejection is adequately set forth in paragraph 3 in the Office Action mailed on 11/30/01.

Fox equation, as listed in column 4 of the applicants' disclosure, has the formulation as the follow:

$$1 / T_g = x^1 / T_g^1 + x^2 / T_g^2 + x^3 / T_g^3 + \dots, \text{ where:}$$

x^1 is wt. fraction of Monomer 1 presented in the overall monomer wt.

x^2 is wt. fraction of Monomer 2 presented in the overall monomer wt.

T_g^1 represents the glass temp. of polymer made by Monomer 1 only

T_g^2 represents the glass temp. of polymer made by Monomer 2 only

And,

Tg is the overall glass temp. when polymer 1 made by Monomer 1 is blended with polymer 2 made by Monomer 2 with respect to their weight fraction.

Fox equation is not a tool to measure the glass transition temperature of a homopolymer.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S.C. Code not included in this action can be found in a prior Office Action.

7. Claims 1 – 12 are rejected under 35 U.S.C. 102 (b) as being anticipated by Guerin U.S. Patent No. 5,643,993.

Applicants' arguments have been considered but they are not persuasive. The rejection is adequately set forth in paragraph 5 in the action mailed on 11/30/01, Paper No. 4, and is incorporated here by reference.

Response to Arguments regarding 35 USC 102

8. With respect to the 102 rejection, applicants argue that the cited reference Patent No. 5,643,993 by Guerin:

- (i) teaches a constructed particle consisting of a core of a first polymer and a shell of a second polymer,
- (ii) neither discusses nor suggests the use of one, and only one chain transfer reagent in the polymerization,
- (iii) has chain transfer reagent for each of the first and second polymer in all the Examples,
- (iv) the Applicants show examples when chain transfer reagent is used for only one monomer (Example c1 vs. Examples 1-8).

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With respect to argument (i), Guerin teaches that the aqueous dispersion of polymer comprises at least one first polymer and at least one second polymer which are mutually incompatible (reference Claim 1 and cited in the first Office Action). No core/shell limitation is mentioned in Guerin's Claim 1. In the meantime, Applicants' claim does not exclude core/shell structure either.

With respect to argument (ii), Guerin discloses the use of at least one chain transfer reagent in his invention (col.6 line 21). No limitation is disclosed in terms of the chain transfer reagent to be used either in both monomers' polymerization processes or just in one.

With respect to argument (iii), although all Examples shown in Guerin's disclosure contain chain transfer reagent in both monomers, Guerin does not teach away the possibility only use one chain transfer reagent in one monomer system. As a matter of fact, he discusses the fact that using chain transfer reagent to control particle size or number average molecular weight is commonly known to one skilled in the art (col.5 line 25 and col.6 line 21).

With respect to argument (iv), while Guerin discloses using chain transfer reagent in polymerization of M2 in the presence of P1 (from M1) in making P2, Guerin does not exclude producing P1 without the use of chain transfer reagent.

Clearly the Examples shown by the Applicants fall under Guerin's teaching.

Hence the argument is unpersuasive.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
9. Claims 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guerin (U.S. 5,643,993) in view of Hieda et al (U.S.5,804,676).

The discussion with regard to aqueous polymer dispersion by Guerin in paragraph 5 of the first Office Action mailed on 11/30/01 is incorporated here by reference.

The difference between the present claims and Guerin's invention is the limitation of weight average molecular weight ranges when chain transfer reagent is used.

Hieda discloses the process of preparing high quality methacrylic polymers with the use of chain transfer agent. He discusses that molecular weight of polymer can be controlled by the amounts of the polymerization initiator and the chain transfer agent added (col.9 line 49). He demonstrates if the concentration of chain transfer agent is too high, the weight average molecular weight of the polymer product will be less than 80,000 (col.9 line 45). In another words, if low or no chain transfer agent is present, the polymer product will have a weight average molecular weight above 80,000.

In light of the advantages using chain transfer agent to control polymer's weight average molecular weight, as taught by Hieda, it would have therefore been obvious to one of ordinary skill in the art to apply the chain transfer agent to Guerin's invention so to have a polymer with weight average molecular weight above 80,000 when no chain transfer agent is used, or with weight average molecular weight below 80,000 when chain transfer agent is used, and thereby arrive at the claimed invention.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Yeh whose telephone number is (703) 305-3139. The examiner can normally be reached on Monday – Friday from 8:00 am to 5:30 pm with the exception of the first Friday per bi-week. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached at (703) 306-2777.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

James T. Yeh, Ph.D.
May 14, 2002

EDWARD J. CAIN
PRIMARY EXAMINER
GROUP 1500

